

County: HARRITT

This Section for Local Health Department Use Only

Initial submittal received: 10-14-22 by MHO
Date Initials

Permit Number: SFD 2201-0045

G.S. 130A-335(a4) states the following: 'if a local health department fails to act on an application for an improvement permit submitted pursuant to subsection (a3) of the section within 10 business days of receipt of a complete application, the local health department shall issue the improvement permit.'

In accordance with G.S. 130A-335(a3) the improvement permit application is:

Incomplete (If box is checked, information in this section is required.)

The following items are missing:

Copies of this were sent to the LSS and the Owner on _____
Date

State Authorized Agent: _____ Date: _____

Denied (See attached report.)

Copies of this were sent to the LSS and the Owner on _____
Date

State Authorized Agent: _____ Date: _____

Complete

State Authorized Agent: Mark A. REHS Date of Issuance: 10-14-22

This Improvement Permit is issued pursuant to G.S. 130A-335 (a2), (a3), and (a4) using the signed and sealed LSS/LG evaluation(s) attached here. The issuance of this permit by the Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This site is subject to revocation if the site plan, plat, or the intended use changes, or if information submitted in the application was falsified, inaccurate or misleading. The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to conditions of this permit. The location and identification of all property lines, easements, water lines, and other appropriate utilities shall be the responsibility of the owner.

The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to evaluations, submittals, or actions from a licensed soil scientist or licensed geologist pursuant to GS 130A-335(a2).

Improvement Permit Expiration Date: 10-14-27

See attached site sketch

County: Harnett

This Section for Local Health Department Use Only

Initial submittal received: 10-14-22 by AWD
Date Initials

Permit Number: SFD2201-0045

G.S. 130A-335(a6) states the following: 'If a local health department fails to act on an application for a construction authorization submitted pursuant to subsection (a5) of the section within 10 business days of receipt of a complete application, the local health department shall issue the construction authorization.'

In accordance with G.S. 130A-335(a5) the construction authorization application is:

Incomplete (If box is checked, information in this section is required.)

The following items are missing: _____

Copies of this were sent to the AOWE/PE and the Owner on _____
Date

State Authorized Agent: _____ Date: _____

Denied (See attached report.)

Copies of this were sent to the AOWE/PE and the Owner on _____
Date

State Authorized Agent: _____ Date: _____

Complete

State Authorized Agent: Mark A. REHS Date of Issuance: 10-14-22

This Construction Authorization is issued pursuant to G.S. 130A-335(a2), (a5), and (a6) using the signed and sealed plans or evaluations attached here. This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes, or if information submitted in the application was falsified, inaccurate or misleading. The Construction Authorization shall not be affected by a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit. The location and identification of all property lines, easements, water lines, and other appropriate utilities shall be the responsibility of the owner. Final landscaping shall be constructed to divert water and establish vegetative cover.

The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to plans, evaluations, preconstruction conference findings, submittals, or actions from a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator in GS 130A-335(a2), (a5), and (a7). The Department, the Department's authorized agents, and the local health departments shall be responsible and bear liability for their actions and evaluations and other obligations under State law or rule, including the issuance of the operations permit pursuant to GS 130A-337.

Construction Authorization Expiration Date: 10-14-27

See attached site sketch

County: Harnett

CONSTRUCTION AUTHORIZATION FOR G.S. 130A-335(a2)/SL2022-11

PIN/Lot Identifier: 0537-02-5655.000

Issued To: David Gietz

Property Location: 2780 Circle T Drive, Lillington, NC

AOWE/PE Plans/Evaluations Provided: Yes No If yes, name and license number of AOWE/PE: Hal Owen LSS 1102

Facility Type: Single Family Residence

New Expansion Repair System Relocation

Basement? Yes No Basement Fixtures? Yes No

Type of Wastewater System** IIIg (Initial) IIIb (Repair)

Design Daily Flow: 360 GPD Wastewater Strength: domestic high strength industrial process

Session Law 2014-120 Section 53, Engineering Design Utilizing Low-flow Fixtures and Low-flow Technologies? Yes No

Installation Requirements/Conditions

Septic Tank Size: 1000 gallons Total Trench/Bed Length: 300 feet Trench/Bed Spacing: 9 feet on center

Drainfield square footage: 900 Trench/Bed Width: 3 inches LTAR: 0.3 gpd/ft²

Soil Cover: 6 inches Slope Adjusted Maximum Trench/Bed Depth: 15 inches

Aggregate Depth: _____ inches above pipe _____ inches below pipe _____ inches total

Pump Tank Size (if applicable): _____ gallons Requires more than 1 pump? Yes No

Pump Requirements: _____ ft. TDH vs. _____ GPM Grease Trap Size (if applicable): _____ gallons

Distribution Method: Serial D-Box or Parallel Pressure Manifold(s) LPP Other: _____

Artificial Drainage Required: Yes No If yes, please specify details: _____

Legal Agreements (If the answer is "Yes" to any type of legal agreements, please attach a copy of the agreement.)

Multi-party Agreement Required [.1937(h)]: Yes No

Easement, Right-of-Way, or Encroachment Agreement Required [.1938(j)]: Yes No

Declaration of Restrictive Covenants: Yes No

****If applicable:**
I understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.

Owner/Legal Representative Print Name: _____

Owner/Legal Representative Signature: _____ Date: _____

Pre-Construction Conference Required: Yes No

Conditions: _____

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958, and .1959 are incorporated by reference into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

AOWE/PE Print Name: _____

AOWE/PE Signature: Hal Owen Digitally signed by Hal Owen
Date: 2022.09.13 15:22:17 -0400 Date: 9/13/22

This AOWE/PE submittal is pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5).

See attached site sketch

County: Harnett

IMPROVEMENT PERMIT FOR G.S. 130A-335(a2)/SL2022-11

PIN/Lot Identifier: 0537-02-5655.000

Issued To: David Gietz

Property Location: 2780 Circle T Drive, Lillington, NC

Subdivision: _____ Lot #: _____ Block: _____ Section: _____

LSS Report Provided: Yes No

If yes, name and license number of LSS: Hal Owen LSS 1102

New Repair Expansion System Relocation

Proposed Structure: Single Family Residence

Proposed Wastewater System Type: IIIg (Initial) IIIb (Repair)

Fill System: Yes No If yes, specify: New Existing (when adding more than 6 inches of fill to system area please provide a fill plan)

Proposed Design Daily Flow: 360 GPD Proposed LTAR (Initial): 0.3 Proposed LTAR (Repair): 0.3

Design Wastewater Strength: domestic high strength industrial process

Number of bedrooms: 3 Number of Occupants: _____ Other: _____

Pump Required: Yes No May be required based upon final location and elevations of facilities

Artificial Drainage Required: Yes No If yes, please specify details: _____

Type of Water Supply: Private well Public well Municipal Supply Spring Other: _____

Drainfield location meets requirements of Rule .1945: Yes No

Drainfield location meets requirements of Rule .1950: Yes No

Permit valid for: Five years [site plan submitted pursuant to GS 130A-334(13a)] No expiration [plat submitted pursuant to GS 130A-334(7a)]

Permit conditions:
Follow all instructions, call ahead with any questions.

Licensed Soil Scientist Print Name: Hal Owen

Licensed Soil Scientist Signature: Hal Owen Digitally signed by Hal Owen Date: 2022.09.13 15:22:30 -04'00' Date: 9/13/22

The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2).

See attached site sketch

HAL OWEN & ASSOCIATES, INC.

SOIL & ENVIRONMENTAL SCIENTISTS

P.O. Box 400, Lillington NC 27546-0400

Phone (910) 893-8743 / Fax (910) 893-3594

www.halowensoil.com

13 September 2022

David Gietz
9 Cedarview Ct
Palm Coast, FL 32137

Reference: LSS Evaluation for Improvement Permit
2780 Circle T Drive; PIN 0537-02-5655.000

Dear Mr. Gietz,

A site investigation was conducted on 26 August 2022 for the above referenced property, which is located at 2780 Circle T Drive in Harnett County, North Carolina. The purpose of the investigation was to determine the ability of this lot to support a subsurface sewage waste disposal system and 100% repair area for a typical three-bedroom home. An individual well will be utilized. At the time of the investigation, the site had been cleared and the residence built.

This LSS Evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2). This evaluation of soil conditions and site features is provided pursuant to G.S. 130A-335(a1) to be used in developing design and construction features for a new wastewater system or for repair of an existing system. All ratings and determinations were made in accordance with "Laws and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A .1900". This report represents my professional opinion as a Licensed Soil Scientist.

SOIL INVESTIGATION

The soils were evaluated under moist soil conditions through the advancing of auger borings. The soils indicated as provisionally suitable for subsurface sewage waste disposal systems are so rated due to clayey textured subsoil layers (Figure 1). The subsoils were observed to be firm sandy clays and extended to greater than 36 inches below ground surface (see attached soil/site evaluation form). These soils appear adequate to support long-term acceptance rates of 0.3 gal/day/sqft for conventional or accepted status drainlines.

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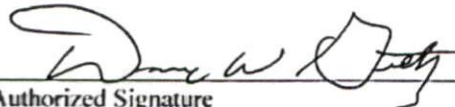
PROPERTY INFORMATION

Project Name:	2780 Circle T Drive
Site Address:	2780 Circle T Drive, Lillington, NC 27546
S/D Name and Lot#	
PIN:	0537-02-5655.000
Size (Acre)	12.11
County:	Harnett

APPLICANT INFORMATION

Name:	David Gietz
Mailing Address:	9 Cedarview Ct, Palm Coast, FL 32137
Telephone Number:	386-846-3061
E-mail Address:	dgie1006@gmail.com

The LSS Evaluation attached to this application is to be used to issue and Improvement Permit in accordance with G.S. 130A-335(a2) and (a3).


Authorized Signature _____ OWNER Title _____ 10-14-2022 Date

(Please legibly print name here:)

SEPTIC SYSTEM DESIGN

Adequate amounts of usable soils were observed on this lot to support an initial septic system and 100% repair area. The proposed single-family residence will contain three bedrooms and have a design wastewater flow of 360 gallons per day. The home does not have a basement. A 1000 gallon (at minimum) septic tank and an approved septic effluent filter is required. There appears to be adequate fall from the house to the initial drainfield for a gravity driven system; however, a pump tank (1000 gallon at minimum) should be added if gravity distribution cannot be demonstrated. See the attached *Wastewater Treatment System Plans* for a diagram of the septic system layout and design specifications.

The initial septic system is proposed as a gravity driven system to 300 linear feet of chamber drainlines utilizing a 25% reduction in total drainline length. A long-term application rate of 0.3 gal/day/sqft was used to design both the drainfields. Effluent will be serially distributed to two unequal length drainlines connected by overflow pipes. The drainlines shall be installed on contour with maximum trench bottom depths at 15 inches below surface. Due to the ultra-shallow trench depth, it will be necessary to add native backfill over the nitrification field to provide at least six inches of cover over the drainlines.

The repair septic system is proposed as a pump driven system to 300 linear feet of chamber drainlines utilizing a 25% reduction in total drainline length (Figure 2). The pump is necessary due to slab house construction. A distribution box will be used to deliver effluent in parallel distribution to three 100-ft long drainlines. Step-downs or drop boxes will be utilized to connect the drainline segments. The drainlines should be installed on contour with maximum trench bottom depths at 15 inches below surface. Due to the ultra-shallow trench depth, it will be necessary to add native backfill over the nitrification field to provide at least six inches of cover over the drainlines.

Septic and pump tanks must be water tight. The installer shall provide documentation that the tanks have been tested for water tightness by the manufacturer or prepare to run water tightness testing (hydrostatic or vacuum testing in the ready- to-use-state) at the site.

Conformance to all regulatory setbacks shall be maintained. The minimum horizontal setback from a septic system to a property line is 10 feet, to a building foundation is 5 feet, to a well is 50 feet, to a water line is 10 feet, and to a surface water is 50 feet. Drainlines shall be installed on nine-foot centers or greater, as flagged at the site.

Potential septic system drainlines have been demonstrated with various colored pin flags that are located on the lot. **It is important that you do not disturb the septic system area.** It is recommended that a staked line or protective fence be placed around the system prior to construction to eliminate any potential damage to the soil or the layout of the system.

SYSTEM MAINTENANCE

It is recommended that care be taken to preserve the life of the septic system. The septic tank, pump tank, and distribution boxes should be kept accessible for pumping and adjustment. Your septic system should be periodically inspected, and the septic tank pumped out every 3 to 5 years by a professional contractor. Practicing water conservation in the home, such as promptly repairing leaky fixtures and running washing machines and dishwashers only when full, will help to avoid hydraulically overloading the septic system. Also, disposal of oils, fats, and grease into the septic system should be avoided because they could clog drainlines and conveyance pipes. A list of other useful suggestions can be found at <https://content.ces.ncsu.edu/septic-system-owners-guide>.

It is required that the nitrification field and repair area be protected from vehicular traffic or other unauthorized access. Vehicular traffic can damage soils, pipes, and valve boxes. Damage to the nitrification field or repair area could result in the septic permit being revoked. Do not allow underground utilities, water lines, or sprinkler systems to be installed in the septic system or repair areas.

CONCLUSION

This report and the attached septic system design information will need to be submitted to the Local Health Department for review and the permitting process. I appreciate the opportunity to provide this service and hope to be allowed to assist you again in the future. If you have any questions or need additional information, please contact me at your convenience.



Sincerely,

Hal Owen
Licensed Soil Scientist

HAL OWEN & ASSOCIATES, INC.

SOIL/SITE EVALUATION
FOR ON-SITE WASTEWATER SYSTEM

APPLICANT: David Gietz OWNER: AGENT: PHONE: 386-846-3061
 ADDRESS: 9 Cedarview Ct, Palm Coast, FL 32137
 PROPOSED FACILITY: Single Family Residence PROPOSED DAILY FLOW (.1941): 360 gpd
 LOCATION OF SITE: 2780 Circle T Drive PROPERTY SIZE: 12.11 acres
 COUNTY: Harnett PROPERTY ID #: 0537-02-5655.000
 WATER SUPPLY: On-Site Well , Community Well , Public , Other _____
 EVALUATION METHOD: Auger Boring Pit
 EVALUATED BY: Hal Owen, LSS 1102 DATE EVALUATED: 26 August 2022

PROFILE 1

HORIZON	DEPTH (IN)	MATRIX	MOTTLES	MOTTLES ABUNDANCE/ SIZE/CONTRAST	.1941			CONSISTENCE MOIST
					(a)(1) TEXTURE	(a)(2) STRUCTURE	(a)(3) MINEROLOGY	
A	-3-0	10YR 5/6			SCL	2 M SBK		FI
A1	0-4	10YR 4/3			SL	GR		VFR
A2	4-9	10YR 5/3			SL	GR		VFR
Bw	9-19	10YR 6/3			SL	2 M SBK		FR
Bt1	19-26	10YR 5/6			SC	2 M SBK		FI
Bt2	26-35	10YR 6/6	10YR 6/8	c 3	SC	2 M SBK		FI
Bt3	35-48+	10YR 6/6	10YR 7/1	c 3	SC	2 M SBK		FI
			10YR 6/8	c 3				
			7.5YR 5/8	c 1				
			10YR 6/4	c 3				
.1940 LANDSCAPE POS / SLOPE%			L/ 4%	.1956 SAPROLITE CLASS			NA	
.1942 SOIL WETNESS CONDITION			35"	.1944 RESTRICTIVE HORIZON			NA	
.1943 SOIL DEPTH			48"+	PROFILE CLASSIFICATION & LTAR			PS 0.3 gpd/sf	
COMMENTS								

HAL OWEN & ASSOCIATES, INC.

PROFILE 2

HORIZON	DEPTH (IN)	MATRIX	MOTTLES	MOTTLES ABUNDANCE/ SIZE/CONTRAST	(a)(1) TEXTURE	.1941 (a)(2) STRUCTURE	(a)(3) MINEROLOGY	CONSISTENCE MOIST
A1	0-4	10YR 4/3			SL	GR		VFR
A2	4-9	10YR 5/3			SL	GR		VFR
Bw	9-19	10YR 6/3			SL	2 M SBK		FR
Bt1	19-27	10YR 5/6			SC	2 M SBK		FI
Bt2	27-35	10YR 6/8	10YR 7/2	c 2	SC	2 M SBK		FI
.1940 LANDSCAPE POS./ SLOPE%			L/ 6%	.1956 SAPROLITE CLASS			NA	
.1942 SOIL WETNESS CONDITION			27"	.1944 RESTRICTIVE HORIZON			NA	
.1943 SOIL DEPTH			35"+	PROFILE CLASSIFICATION & LTAR			PS 0.3 gpd/sf	
COMMENTS								

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
.1945 AVAILABLE SPACE	1200 sf trench bottom (conventional) 900 sf trench bottom (25% reduction)	1200 sf trench bottom (conventional) 900 sf trench bottom (25% reduction)
SYSTEM TYPE	Accepted status (25% reduction)	Accepted status (25% reduction)
SITE LTAR (gpd/ft ²)	0.3	0.3

.1946 OTHER FACTORS: _____

.1948 SITE CLASSIFICATION: Provisionally Suitable for modified or alternative systems

COMMENTS: _____

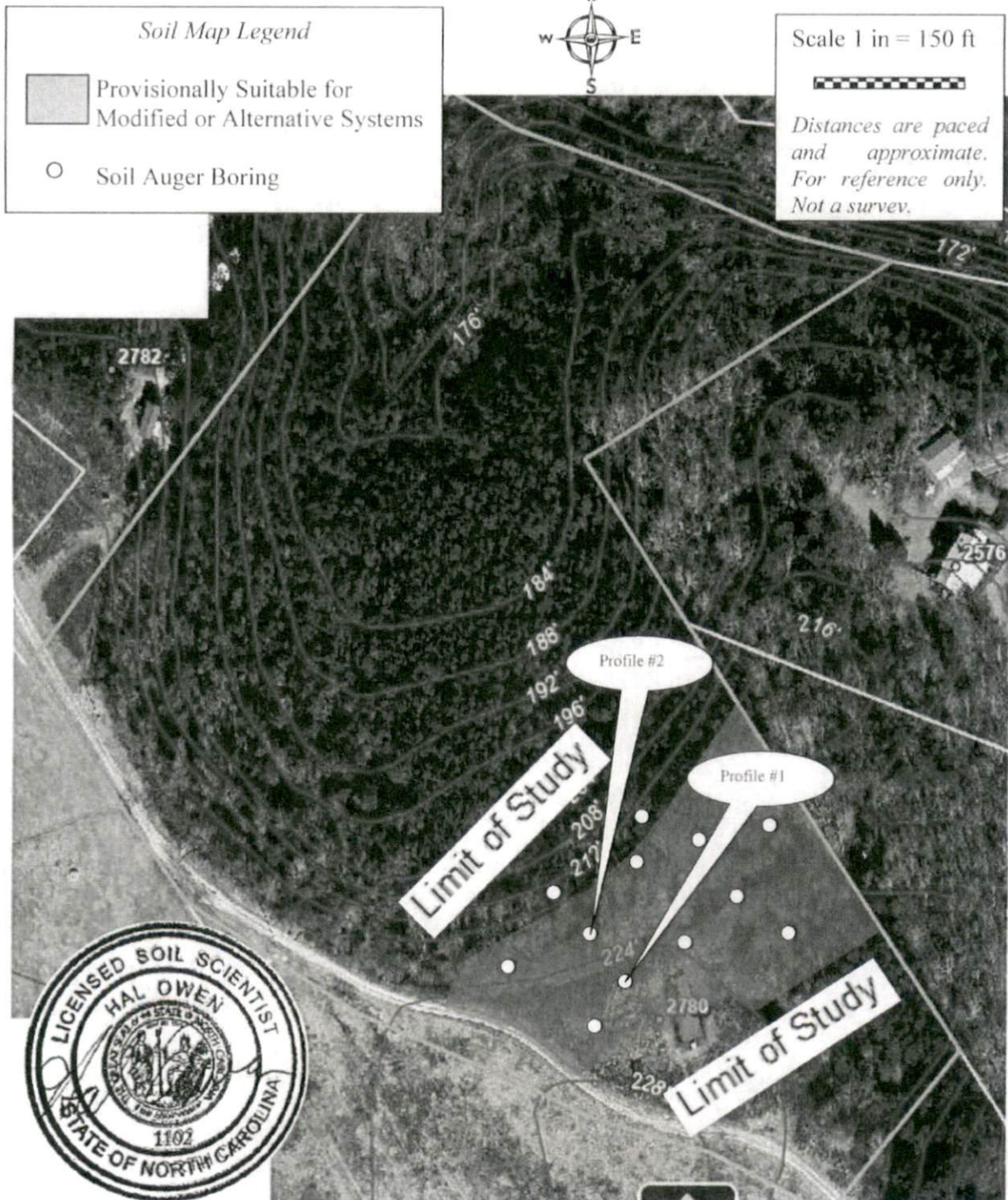
LEGEND OF ABBREVIATIONS FOR SITE EVALUATION FORM

<u>LANDSCAPE POSITION</u>	<u>TEXTURE GROUP</u>	<u>TEXTURE CLASS</u>	<u>.1955 LTAR (gal/day/sqft)</u>
CC - Concave Slope	I	S - Sand	1.2-0.8
CV - Convex Slope		LS - Loamy Sand	
DS - Debris Slump	II	SL - Sandy Loam	0.8 - 0.6
D - Depression		L - Loam	
DW - Drainage Way	III	SCL - Sandy Clay Loam	0.6 - 0.3
FP - Flood Plain		CL - Clay Loam	
FS - Foot Slope		SiL - Silt Loam	
H - Head Slope		Si - Silt	
L - Linear Slope		SiCL - Silt Clay Loam	
N - Nose Slope	IV	SC - Sandy Clay	0.4 - 0.1
R - Ridge		C - Clay	
S - Shoulder Slope		SiC - Silty Clay	
T - Terrace		O - Organic	none
<u>MINEROLOGY</u>			
SEXP - Slightly Expansive			
EXP - Expansive			
<u>STRUCTURE</u>	<u>MOIST CONSISTENCE</u>	<u>WET CONSISTENCE</u>	
G - Single Grain	VFR - Very Friable	NS - Non Stick	
M - Massive	FR - Friable	SS - Slightly Sticky	
CR - Crumb	FI - Firm	MS - Moderately Stick	
GR - Granular	VFI - Very Firm	VS - Very Sticky	
SBK - Subangular Blocky	EFI - Extremely Firm	NP - Non Plastic	
ABK - Angular Blocky		SP - Slightly Plastic	
PL - Platy	<u>MINERALOGY</u>	MP - Moderately Plastic	
PR - Prismatic	NEXP - Non Expansive	VP - Very Plastic	
	SEXP - Slightly Expansive		
	EXP - Expansive		
<u>MOTTLES</u>			
f - few	1 - fine	F - Faint	
c - common	2 - medium	D - Distinct	
m - many	3 - coarse	P - Prominent	

Give Horizon Depth in inches below natural soil surface and Fill Depth in inches above land surface.
 Depth to Soil Wetness: inches below land surface to free water or to soil colors with chroma 2 or less.
 Classification S - Suitable PS - Provisionally Suitable U - Unsuitable

LSS Evaluation for Improvement Permit
2780 Circle T Drive; PIN 0537-02-5655.000
8 September 2022

Figure 1. Soil Map showing Septic Suitability



WASTEWATER TREATMENT SYSTEM PLANS

for 2780 Circle T Drive

PROJECT INFORMATION

Facility Type	Residential	3 # bedrooms
Wastewater Type	Domestic	
Water Supply	New Well	
Design Wastewater Flow	360	gpd
Soil LTAR	0.3	gpd/ft ²

PROPERTY INFORMATION

County	Harnett
Site Address	2780 Circle T Drive, Lillington, NC 27546
S/D Name and Lot#	
PIN	0537-02-5655.000
Size (Acre)	12.11

APPLICANT INFORMATION

Name	David Gietz
Mailing Address	9 Cedarview Ct, Palm Coast, FL 32137
Telephone Number	386-846-3061
E-mail Address	dgie1006@gmail.com

CONSULTANT INFORMATION

Company Name	Hal Owen & Associates, Inc.
Mailing Address	PO Box 400, Lillington, NC 27546
Telephone Number	910-893-8743 Fax: 910-893-3594
E-mail Address	hal@halowensoil.com
Licensed Soil Scientist	Hal Owen, License #1102
System Designer	Jocelyn Proulx

2780 Circle T Drive

Initial System

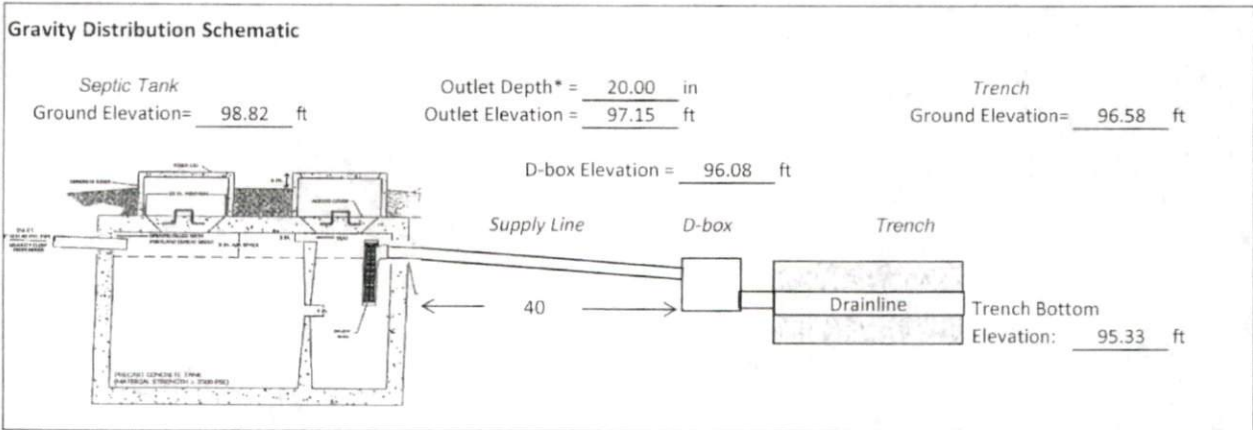
DESIGN DAILY FLOW 360 gallons SOIL LTAR: 0.3 gpd/ft²

TANK (min) Septic Tank: 1000 gallons

SUPPLY LINE Length (ft): 40 Diameter: 3 " sch 40 pvc slope = 2.68%
*minimum slope of supply line is 1/8" per foot (%1.04)

TRENCHES Drainline Type: Accepted (25% reduction) System

Max trench depth:	<u>15</u> inches	Trench Height:	<u>12</u> in	Add soil cap over drainlines Effective Trench Width: <u>4</u>
Trench width:	<u>3</u> feet	Trench Length Factor:	<u>75</u> %	
Absorption Area:	<u>900</u> sqft	Min Linear Length:	<u>300</u> feet	
Actual Trench Length:	<u>1</u> X	<u>300</u> feet =	<u>300</u> feet	



*Outlet depth of septic tank will depend upon the depth of the plumbing stub out from the home and the tank brand.